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10/099,940	03/19/2002	Kazuhiro Ishiguro	018987-041	6305

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EXAMINER	
BURLESON, MICHAEL L	
ART UNIT	**PAPER NUMBER**
2625	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/099,940	ISHIGURO, KAZUHIRO	
	Examiner	Art Unit	
	Michael Burleson	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 06/19/2002.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) was submitted on 06/26/2002. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claims 2 and 8, It is unclear to the Examiner what is meant when Applicant claims that the second correction unit conducts correction processing on each piece of color component data in a same manner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3,5,7-9,11,13 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujiwara US 6775031.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads

on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area.

Regarding claim 2, Fujiwara teaches that RGB data is entered (column 4,lines 60-67), which reads on the data includes a plurality of pieces of color component data, the first correction unit conducts correction processing on at least one of the plurality of pieces of color component data differently from the other pieces of color component data and the second correction unit conducts correction processing on each piece of color component data in a same manner.

Regarding claim 3, Fujiwara teaches that nonwhite and white backgrounds can be identified (column 5,lines 24-28), which reads on data includes chromatic color component data and achromatic color component data. Fujiwara teaches that only halftone elements are smoothed, which are taken from CMYK image data (column 6,lines 16-30), which reads on the second correction unit conducts correction processing only on the achromatic color component.

Regarding claim 5, Fujiwara teaches of a total judgment unit (188) (column 5,lines 59-67 and column 6,lines 1-8), which reads on the first judgment unit and the

second judgment unit shares a differential filter, the differential filter outputting intensity variations among pixels surrounding the target pixel, the first judgment unit judges whether the target pixel is in the first edge area by comparing an output from the differential filter with a first reference value, and the second judgment unit judges whether the target pixel is in the second edge area by comparing the output for the differential filter with a second reference value that is smaller than the first reference value.

Regarding claim 7, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area. Fujiwara teaches of a print unit (90) for printing output data on paper (column 4,lines 5-7 and figure 1), which reads on

an image forming unit for forming an image based on the data corrected by the fist correction unit and the second correction unit.

Regarding claim 8, Fujiwara teaches that RGB data is entered (column 4,lines 60-67), which reads on the data includes a plurality of pieces of color component data, the first correction unit conducts correction processing on at least one of the plurality of pieces of color component data differently from the other pieces of color component data and the second correction unit conducts correction processing on each piece of color component data in a same manner.

Regarding claim 9, Fujiwara teaches that nonwhite and white backgrounds can be identified (column 5,lines 24-28), which reads on data includes chromatic color component data and achromatic color component data. Fujiwara teaches that only halftone elements are smoothed, which are taken from CMYK image data (column 6,lines 16-30), which reads on the second correction unit conducts correction processing only on the achromatic color component.

Regarding claim 11, Fujiwara teaches of a total judgment unit (188) (column 5,lines 59-67 and column 6,lines 1-8), which reads on the first judgment unit and the second judgment unit shares a differential filter, the differential filter outputting intensity variations among pixels surrounding the target pixel, the first judgment unit judges whether the target pixel is in the first edge area by comparing an output from the differential filter with a first reference value, and the second judgment unit judges whether the target pixel is in the second edge area by comparing the output for the

differential filter with a second reference value that is smaller than the first reference value.

Regarding claim 13, the structural elements of apparatus claim 1 performs all of the steps of method claim 13. Thus, claim 13 is rejected for the same reasons discussed in the rejections of claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4,6,10 and 12 are rejected under 35 U.S.C. 103(a) as being obvious over Fujiwara US 6775031 in view of Hirota US 5357353.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR

1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 4, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area.

Fujiwara fails to teach of the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7,lines 5-12). He also teaches of decreasing and increasing black data (column 7,lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara wherein Fujiwara's method is applied to a first correction processing of increasing or decreasing density data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara by the teaching of Hirota in order to optimize the density data of the color image data.

Regarding claim 6, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing

circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area.

Fujiwara fails to teach of the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara wherein Fujiwara's method is applied to a first judgment unit, which determines if a pixel is achromatic or chromatic. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara by the teaching of Hirota in order to identify a target pixel and to accurately process a particular type of pixel.

Regarding claim 10, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads

on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area. Fujiwara teaches of a print unit (90) for printing output data on paper (column 4,lines 5-7 and figure 1), which reads on an image forming unit for forming an image based on the data corrected by the fist correction unit and the second correction unit.

Fujiwara fails to teach of the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7,lines 5-12). He also teaches of decreasing and increasing black data (column 7,lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara wherein Fujiwara's method is applied to a first correction processing of increasing or decreasing density data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara by the teaching of Hirota in order to optimize the density data of the color image data.

Regarding claim 12, Fujiwara teaches of a digital copying machine that contains a halftone dot detector (182) (column 4,lines 2-4 and column 5,lines 1-5), which reads on an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area. Fujiwara teaches of an edge identifying unit (187) (column 5,lines 59-65), which reads on a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge area. Fujiwara teaches of a smoothing filter (151) (column 6,lines 16-25), which reads on a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area. Fujiwara teaches of an edge enhancing circuit (153) (column 6,lines 16-25), which reads on a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area. Fujiwara teaches of a print unit (90) for printing output data on paper (column 4,lines 5-7 and figure 1), which reads on an image forming unit for forming an image based on the data corrected by the fist correction unit and the second correction unit.

Fujiwara fails to teach of the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7,lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7,lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara wherein Fujiwara's method is applied to a first judgment unit, which determines if a pixel is achromatic or chromatic. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Fujiwara by the teaching of Hirota in order to identify a target pixel and to accurately process a particular type of pixel.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Burleson whose telephone number is 571-272-

7460. The examiner can normally be reached Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Burleson

Patent Examiner

MB

March 18, 2006

David Moore

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